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Natural Power secures consent for innovative airborne wind energy testing site in Ireland

Leading renewable energy consultancy and service provider, Natural Power, has secured planning consent on behalf of RWE to develop a first of its kind demonstration site in County Mayo, Ireland, that will test new airborne wind energy systems (AWES). Construction of the site infrastructure is expected to begin later this year.

Natural Power successfully delivered a number of roles on this project, including site investigations; ornithological surveys; Project Supervisor Design Process (PSDP); planning application and project management of planning consent, including EIA screening, construction environmental management plan, traffic management plan, hydrological, archaeological, visual and structural assessments; and grid connection services.

Seán Manley, Country Director at Natural Power, said: "Natural Power has been involved in this project for a number of years and is delighted to have secured planning consent on behalf of RWE for this innovative AWES technology. We wish RWE all the best during the construction phase and developing the AWES technology to commercial scale."

RWE's test site will first undertake testing, verification and demonstration of a 150 kilowatts (kW) demonstrator system developed by partner Ampyx Power, followed later by a larger commercial-scale 1 megawatt (MW) system. RWE will also test systems from other AWES developers during the eight-year operational lifetime of its test centre.

Airborne wind energy systems harness the strong and steady winds at altitudes greater than several hundred metres. The system being tested by RWE consists of a ground-based winch generator, a launch and land platform, and small, aircraft-shaped device.

The device, which has a 12-metre (about 40 feet) wingspan, is connected to the generator by an ultra-strong tether. It draws the tether from the winch and produces electricity by acting against the resistance of the built-in generator. Once the tether is fully extended, the device glides back towards the winch, as the tether is reeled back in. Retrieving the tether requires just a fraction of the energy generated, resulting in net power production. This cycle is performed repeatedly, producing clean, low-cost energy. Current airborne wind energy systems demonstrators have power output capacities between 100 and 200 kW.

About Natural Power

Natural Power is an independent consultancy and service provider that supports a global client base in the effective delivery of a wide range of renewable projects including onshore wind, solar, renewable heat, energy storage and offshore technologies. It has a global reach, employing more than 400 staff across 14 international offices. Its experience extends across all phases of the project lifecycle from initial feasibility, through construction to operations and throughout all stages of the transaction cycle.

www.naturalpower.com
www.linkedin.com/company/natural-power
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RWE Renewables
RWE Renewables is one of the world's leading renewable energy companies. With around 3,500 employees, the company has onshore and offshore wind farms, photovoltaic plants and battery storage facilities with a combined capacity of approximately 9 gigawatts. RWE Renewables is driving the expansion of renewable energy in more than 15 countries on four continents. From 2020 until 2022, RWE Renewables targets to invest €5 billion net in renewable

energy and to grow its renewables portfolio to 13 gigawatts of net capacity. Beyond this, the company plans to further grow in wind and solar power. The focus is on the Americas, the core markets in Europe and the Asia-Pacific region.

Ampyx Power
Ampyx Power develops fixed wing airborne wind energy systems (AWES) for deployment in remote energy markets and in utility scale wind farms. This innovation can bring down the cost of wind power, by accessing stronger wind at higher altitude, using less material than traditional wind turbines. With around 60 employees and subsidiaries in Australia and Ireland, Ampyx Power is a frontrunner in the emerging airborne wind energy industry. Though a clear focus on system safety and reliability, Ampyx Power has been granted approvals from airspace authorities to operate its prototypes since 2010, and plays a key role in the development of the regulatory framework and certification standards for airborne wind energy systems.

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